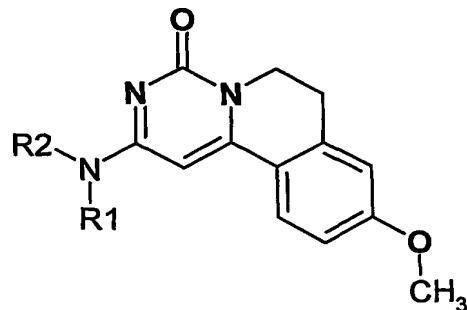


What is claimed is:

1. A compound of the formula I, or a salt, solvate, or a physiologically functional derivative thereof

5



I

10

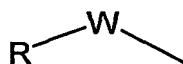
in which

R1 is hydrogen, $\cdot\text{NH}_2$, or $\text{C}_{1-6}\text{alkyl}$;

R2 is hydrogen; or

15

R2 is a radical of the formula



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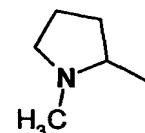
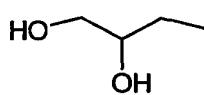
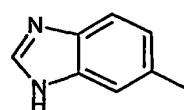
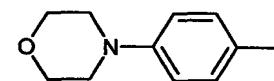
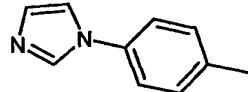
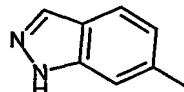
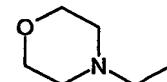
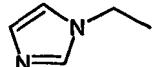
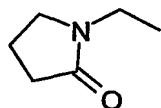
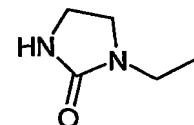
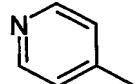
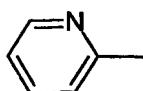
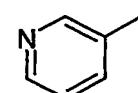
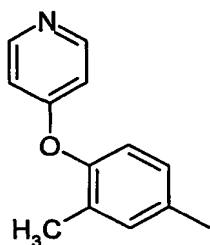
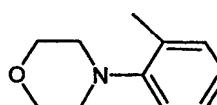
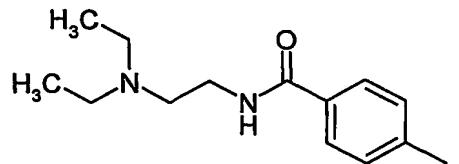
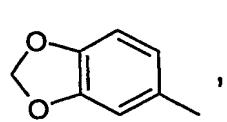
in which W is a bond, $\cdot\text{CH}_2\cdot$, $\cdot\text{CH}_2\text{CH}_2\cdot$, $\cdot\text{C}(=\text{O})\cdot$, $\cdot\text{NCH}_3\cdot$, or $\cdot\text{NH}\cdot$;

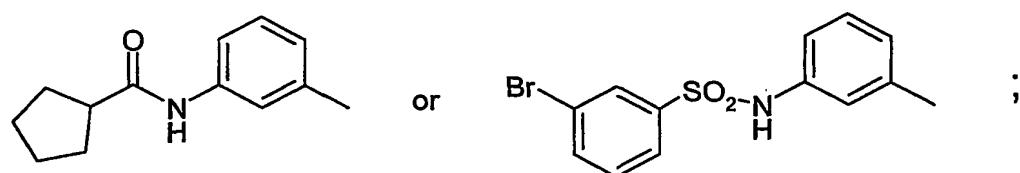
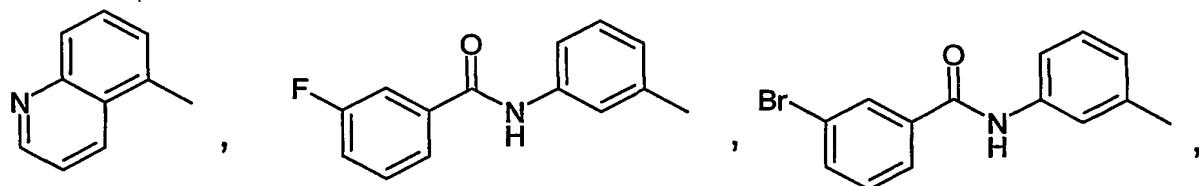
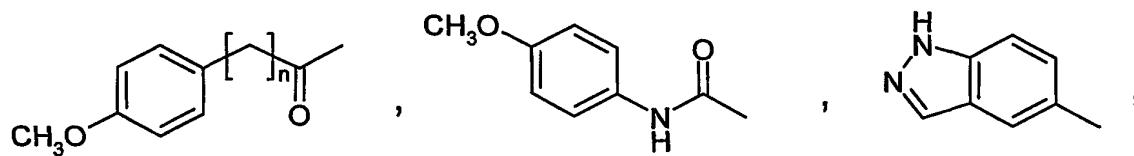
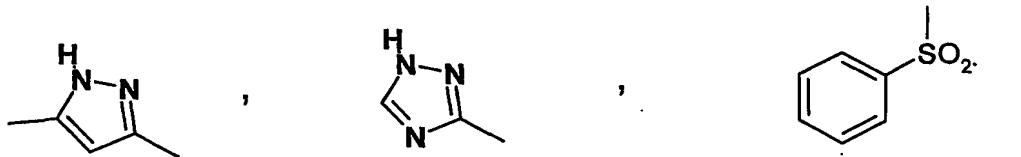
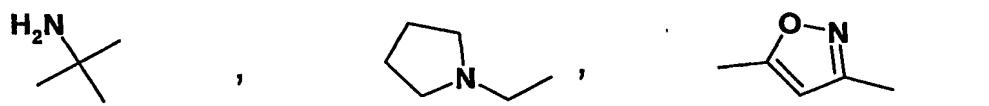
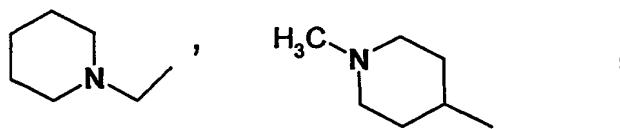
25

R is $\text{C}_{3-6}\text{cycloalkyl}$, $\text{C}_{1-6}\text{alkyl}$, hydroxy, $\cdot\text{NH}_2$, $(\text{C}_{1-6}\text{alkyl})_2\text{N}\cdot$, $\text{C}_{1-6}\text{alkylO}\cdot$, $\text{C}_{1-6}\text{alkylOCH}_2\cdot$, phenyl optionally and independently substituted with one to three $\text{C}_{1-6}\text{alkyl}$, halogen, $\text{C}_{1-6}\text{alkylO}\cdot$, $\text{C}_{1-6}\text{alkylOC}(=\text{O})\cdot$, acetyl, $\text{NH}_2\text{C}(=\text{O})\cdot$, $\text{FSO}_2\cdot$, $\cdot\text{CF}_3\cdot$, $\text{NH}_2\text{SO}_2\cdot$, dimethylamino, $\text{HOCH}_2\cdot$, $\text{CH}_3\text{NHC}(=\text{O})\cdot$, hydroxy,

phenyl; or

R is a radical of the formula





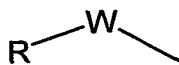
provided that W cannot be CH_2 when point of attachment of R to W is oxygen or nitrogen.

5 2. The compounds of formula I of claim 1 in which

R1 is hydrogen, or $\text{C}_1\text{-alkyl}$;

R2 is hydrogen; or

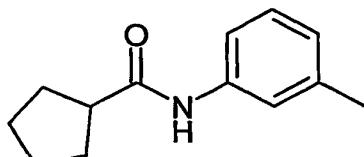
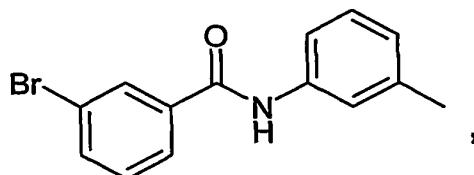
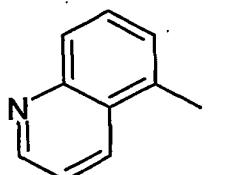
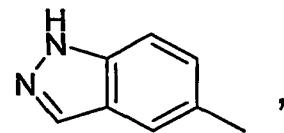
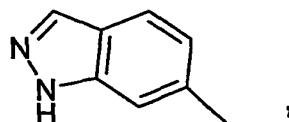
10 R2 is a radical of the formula



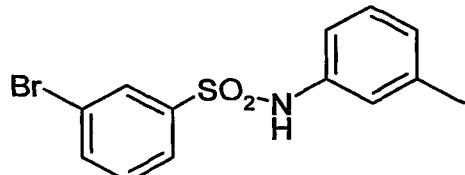
in which W is a bond, $\text{-CH}_2\text{-}$, $\text{-CH}_2\text{CH}_2\text{-}$, -C(=O)- , $\text{-NCH}_3\text{-}$, or -NH- ;

15 R is $\text{C}_1\text{-alkyl}$, hydroxy, -NH_2 , $(\text{C}_1\text{-alkyl})_2\text{N-}$, $\text{C}_1\text{-alkylO-}$, $\text{C}_1\text{-alkylOCH}_2\text{-}$, phenyl optionally and independently substituted with one to three $\text{C}_1\text{-alkyl}$, halogen, $\text{C}_1\text{-alkylO-}$, $\text{C}_1\text{-alkylOC(=O)-}$, -CF_3 , $\text{NH}_2\text{SO}_2\text{-}$, hydroxy, phenyl; or

R is a radical of the formula



or



20

provided that W cannot be CH₂ when point of attachment of R to W is oxygen or nitrogen.

5 3. A method of inhibiting hYAK3 and/or MK2 proteins in a mammal; comprising, administering to the mammal a therapeutically effective amount of a compound of claim 1 or 2, or a salt, solvate, or a physiologically functional derivative thereof.

10 4. A method of treating or preventing a disorder selected from the group consisting of neutropenia; cytopenia; anemias, including anemias due to renal insufficiency or to a chronic disease, such as autoimmunity or cancer, and drug-induced anemias; polycythemia; myelosuppression; rheumatoid arthritis; COPD; asthma; psoriasis; acute neuronal injury; heart failure; stroke, osteoarthritis; and ischemia reperfusion injury; comprising, administering to a mammal a therapeutically effective 15 amount of a compound of claim 1 or 2, or a salt, solvate, or a physiologically functional derivative thereof and one or more of pharmaceutically acceptable carriers, diluents and excipients.

20 5. A compound of any one of claims 1 to 4 that is 2-(2,6-dimethoxy-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

25 6. A compound of any one of claims 1 to 4 that is 2-(1H-indazol-5-ylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

30 7. A compound of any one of claims 1 to 4 that is 9-methoxy-2-(2-methoxy-6-methyl-phenylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

8. A compound of any one of claims 1 to 4 that is 2-(1H-indazol-6-ylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

35 9. A compound of any one of claims 1 to 4 that is 2-(2-bromo-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

10. A compound of any one of claims 1 to 4 that is

3-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-ylamino)-benzenesulfonamide.

11. A compound of any one of claims 1 to 4 that is

5 2-(2-chloro-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

12. A compound of any one of claims 1 to 4 that is

2-(2,6-dimethyl-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one
)

10

13. A compound of any one of claims 1 to 4 that is

2-(2-bromo-6-fluoro-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

15

14. A compound of any one of claims 1 to 4 that is

2-(3-methoxy-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

15. A compound of any one of claims 1 to 4 that is

2-(2-hydroxy-6-methyl-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

20

16. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(4-methoxy-biphenyl-3-ylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

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17. A compound of any one of claims 1 to 4 that is

3-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-ylamino)-benzoic acid ethyl ester.

30

18. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(2-methoxy-phenylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

19. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(2-trifluoromethyl-phenylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

35 20. A compound of any one of claims 1 to 4 that is

2-(4-chloro-2,6-dimethyl-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

21. A compound of any one of claims 1 to 4 that is

5 9-methoxy-2-(quinolin-5-ylamino)-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

22. A compound of any one of claims 1 to 4 that is

2-(2-chloro-5-methoxy-phenylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

10

23. A compound of any one of claims 1 to 4 that is

2-[N'-(2-bromo-phenyl)-hydrazino]-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

15

24. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(N'-methyl-N'-phenyl-hydrazino)-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

25. A compound of any one of claims 1 to 4 that is

20 2-(2-amino-ethylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

26. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(2-pyrrolidin-1-yl-ethylamino)-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

25

27. A compound of any one of claims 1 to 4 that is

2-(2-dimethylamino-ethylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

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28. A compound of any one of claims 1 to 4 that is

2-(2-hydroxy-ethylamino)-9-methoxy-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

29. A compound of any one of claims 1 to 4 that is

9-methoxy-2-[(2-methoxy-ethyl)-methyl-amino]-6,7-dihydro-pyrimido[6,1-alisoquinolin-4-one.

35 30. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(4-methoxy-benzylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

31. A compound of any one of claims 1 to 4 that is

9-methoxy-2-(3-methoxy-benzylamino)-6,7-dihydro-pyrimido[6,1-a]isoquinolin-4-one.

5

32. A compound of any one of claims 1 to 4 that is

3-bromo-N-[3-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-ylamino)-phenyl]-benzamide.

10 33 A compound of any one of claims 1 to 4 that is cyclopentanecarboxylic acid [3-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-ylamino)-phenyl]-amide.

34. A compound of any one of claims 1 to 4 that is

15 3-bromo-N-[3-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-ylamino)-phenyl]-benzenesulfonamide.

20 35. A compound of any one of claims 1 to 4 that is
2-methoxy-N-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-yl)-acetamide.

36. A compound of any one of claims 1 to 4 that is

2,4,6-trichloro-N-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-yl)-benzamide.

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37. A compound of any one of claims 1 to 4 that is

2-methoxy-N-(9-methoxy-4-oxo-6,7-dihydro-4H-pyrimido[6,1-a]isoquinolin-2-yl)-acetamide.